

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions and listings of claims in the application:

**Listing of Claims:**

1. (Currently Amended) In a wireless communication system, a method for utilizing a single Internet Protocol address for multiple Point-to-Point Protocol instances between a single wireless device and a wireless network, comprising:

establishing a first Point-to-Point Protocol link having a first termination endpoint, the first termination endpoint associated with an Internet Protocol Address;

establishing a second Point-to-Point Protocol link having a second termination endpoint, the second termination endpoint associated with the ~~the~~ [[same ]] Internet Protocol Address ~~as the first Point-to-Point Protocol link;~~ and

differentiating the first termination endpoint and second termination endpoint of the first Point-to-Point Protocol link and the second Point-to-Point Protocol link using a link characteristic, the link characteristic comprising including ~~including~~ at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or ~~or~~ [[and]] guaranteed delivery level.

2-7. (Cancelled)

8. (Original) The method of claim 1 wherein the wireless device uses Simple Internet Protocol service.

9. (Original) The method of claim 1 wherein the wireless device uses Mobile Internet Protocol service.

10-18. (Cancelled)

19. (Currently Amended) In a wireless communication system, a method for providing multiple grades of Radio Link Protocol service to an application of a wireless device, comprising:

establishing a Point-to-Point Protocol session for each grade of Radio Link Protocol service used by the application to create a set of Point-to-Point Protocol sessions, wherein ~~each Point-to-Point Protocol session of~~each Point-to-Point Protocol session comprises a termination endpoint, and wherein the termination endpoint of each Point-to-Point Protocol session is associated~~belonging to the set of Point-to-Point Protocol sessions~~has having endpoints with the same Internet Protocol address; and

differentiating the termination endpoint of each Point-to-Point Protocol session of the set of Point-to-Point Protocol sessions~~in the set~~ using a session link characteristic, the session link characteristic comprising~~including~~ at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or~~and~~ guaranteed delivery level.

Claims 20-24. (Cancelled)

25. (Original) The method of claim 19 wherein the wireless device uses Simple Internet Protocol service.

26. (Original) The method of claim 19 wherein the wireless device uses Mobile Internet Protocol service.

27. (Currently Amended) In a wireless communication system, a method for providing at least one grade of Radio Link Protocol service to a first application of a wireless device, and at least one grade of Radio Link Protocol service to at least a second application of the[[a]] wireless device, comprising:

establishing at least one Point-to-Point Protocol session for the at least one grade of Radio Link Protocol service used by the first application, and establishing at least one Point-to-Point Protocol session for the at least one grade of Radio Link Protocol service used by the at least second application, wherein each of the Point-to-Point Protocol sessions comprises a termination endpoint, and wherein the termination endpoint of each of the Point-to-Point Protocol sessions is associated~~has having endpoints~~ with the same Internet Protocol Address; and

differentiating the termination endpoint of each of the Point-to-Point Protocol sessions using a session link characteristic, the session link characteristic comprising including at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or[[and]] guaranteed delivery level.

Claims 28-32. (Cancelled)

33. (Original) The method of claim 27 wherein the wireless device uses Simple Internet Protocol service.

34. (Original) The method of claim 27 wherein the wireless device uses Mobile Internet Protocol service.

35. (Currently Amended) A wireless communication system comprising:

a wireless device for supporting multiple Point-to-Point Protocol sessions,  
wherein each Point-to-Point Protocol session of the multiple Point-to-Point Protocol sessions comprises a termination endpoint, and wherein the termination endpoint of each Point-to-Point Protocol session is associated with the same endpoints having an identical Internet Protocol Address and different link characteristic[[s]]; and

a wireless network node for exchanging data packets with the wireless device by differentiating the termination endpoint of each of the multiple Point-to-Point Protocol session[[s]] of the multiple Point-to-Point Protocol sessions using a session link characteristic, the session link characteristic comprising including at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or[[and]] guaranteed delivery level.

36. (Previously Presented) The method system of claim 35 wherein the wireless network node is a Packet Data Service Node.

37. (Previously Presented) The method system of claim 35 wherein the wireless network node is an Interworking Function.

Claims 38-42. (Cancelled)

43. (Original) The method of claim 35 wherein the wireless device uses Simple Internet Protocol service.

44. (Original) The method of claim 35 wherein the wireless device uses Mobile Internet Protocol service.

45. (Currently Amended) A wireless device comprising a memory unit coupled to a processing device, the memory unit having stored therein instructions that, if executed by the processing device, will cause the processing device to perform operations wherein the memory embodies a method for supporting multiple Point-to-Point Protocol links having an identical Internet Protocol address, the operations method comprising:

establishing a first Point-to-Point Protocol link having a first termination endpoint[[s]], the first termination endpoint associated with an Internet Protocol Address; establishing a second Point-to-Point Protocol link having a second termination endpoint, the second termination endpoint associated with the [[same ]]Internet Protocol Address as the first Point-to-Point Protocol link; and

differentiating the first termination endpoint and second termination endpoints of the first Point-to-Point Protocol link and the second Point-to-Point Protocol link using a link characteristic, the link characteristic comprising including at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or[[and]] guaranteed delivery level.

Claims 46-50. (Canceled)

51. (Original) The wireless device of claim 45 wherein the wireless device uses Simple Internet Protocol service.

52. (Original) The wireless device of claim 45 wherein the wireless device uses Mobile Internet Protocol service.

Claims 53-65. (Cancelled)

66. (Currently Amended) A wireless network node comprising a memory unit coupled to a processing device, the memory unit having stored therein instructions that, if executed by the processing device, will cause the processing device to perform operations wherein the memory embodies a method for supporting multiple Point-to-Point Protocol links having an identical Internet Protocol address, the operations method comprising:

establishing a first Point-to-Point Protocol link with a wireless device, the first Point-to-Point Protocol link having a first termination endpoint([s]), the first termination endpoint associated with an Internet Protocol Address;

establishing a second Point-to-Point Protocol link with the[[a]] wireless device, the second Point-to-Point Protocol link having a second termination endpoint, the second termination endpoint associated with the [[same ]]Internet Protocol Address-as the first Point-to-Point Protocol link; and

differentiating the first termination endpoint and second termination endpoints of the first Point-to-Point Protocol link and the second Point-to-Point Protocol link within the wireless device using a link characteristic, the link characteristic comprising including at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or[[and]] guaranteed delivery level.

67. (Original) The wireless network node of claim 66 wherein the wireless network node is a Packet Data Service Node.

68. (Original) The wireless network node of claim 66 wherein the wireless network node is an Interworking Function.

Claims 69-73. (Cancelled)

74. (Original) The wireless network node of claim 66 wherein the wireless device uses Simple Internet Protocol service.

75. (Original) The wireless network node of claim 66 wherein the wireless device uses Mobile Internet Protocol service.

76. (Currently Amended) A wireless device comprising:

a wireless modem, a transmitter, and an antenna for establishing a wireless connection to a wireless network;

a control processor; and

a memory unit coupled to the control processor, the memory unit having stored therein instructions that, if executed by the control processor, will cause the control processor to perform operations having code or instructions for directing the control processor to establish multiple Point-to-Point Protocol sessions, wherein each Point-to-Point Protocol session of the multiple Point-to-Point Protocol sessions comprises a termination endpoint and wherein the termination endpoint of each Point-to-Point Protocol session is associated having endpoints with the same an identical Internet Protocol address and different link characteristics with the wireless network, and for differentiating the termination endpoint[[s]] of each[[the]] Point-to-Point Protocol session of the multiple Point-to-Point Protocol sessions using a session link characteristic, the session link characteristic comprising including at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or[[and]] guaranteed delivery level.

Claims 77-81. (Cancelled)

82. (Original) The wireless device of claim 76 wherein the wireless device uses Simple Internet Protocol service.

83. (Original) The wireless device of claim 76 wherein the wireless device uses Mobile Internet Protocol service.

Claims 84-93. (Cancelled)

94. (Currently Amended) A computer-readable medium having instructions stored thereon to cause computers in a wireless communication system to perform a method for utilizing a single Internet Protocol address for multiple Point-to-Point Protocol instances between a single wireless device and a wireless network, the method comprising:

establishing a first Point-to-Point Protocol link having a first termination endpoint ~~endpoint~~ [[s]], the first termination endpoint associated with an Internet Protocol Address;

establishing a second Point-to-Point Protocol link having a second termination endpoint ~~endpoint~~ , the second termination endpoint associated with the ~~the~~ [[same]] Internet Protocol Address ~~as the first Point-to-Point Protocol link~~; and

differentiating the first termination endpoint and second termination endpoints ~~of the first Point-to-Point Protocol link and the second Point-to-Point Protocol link~~ using a link characteristic, the link characteristic comprising including ~~including~~ at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or ~~or~~ [[and]] guaranteed delivery level.

Claims 95-99. (Cancelled)

100. (Original) The computer readable medium of claim 94 wherein the wireless device uses Simple Internet Protocol service.

101. (Original) The computer readable medium of claim 94 wherein the wireless device uses Mobile Internet Protocol service.

Claims 102-111. (Cancelled)



112. (Currently Amended) A computer readable medium having instructions stored thereon to cause computers in a wireless communication system to perform a method for providing multiple grades of Radio Link Protocol service to an application of a wireless device, the method comprising:

establishing a Point-to-Point Protocol session for each grade of Radio Link Protocol service used by the application to create a set of Point-to-Point Protocol sessions, ~~wherein each Point-to-Point Protocol session of belonging to the set of Point-to-Point Protocol sessions comprises a termination endpoint, and wherein the termination endpoint of each Point-to-Point Protocol session is associated~~~~has having endpoints~~ with the same Internet Protocol address; and

differentiating the termination endpoint of each Point-to-Point Protocol session ~~of the set of Point-to-Point Protocol sessions in the set~~ using a session link characteristic, ~~the session link characteristic comprising including~~ at least one of a compression type, encryption level, Radio Link Protocol transmission delay, ~~or~~~~[and]~~ guaranteed delivery level.

Claims 113-117. (Cancelled)

118. (Original) The computer readable medium of claim 112 wherein the wireless device uses Simple Internet Protocol service.

119. (Original) The computer readable medium of claim 112 wherein the wireless device uses Mobile Internet Protocol service.

120. (Currently Amended) A computer readable medium having instructions stored thereon to cause computers in a wireless communication system to perform a method for providing at least one grade of Radio Link Protocol service to a first application of a wireless device, and at least one grade of Radio Link Protocol service to at least a second application of ~~the~~[[a]] wireless device, the method comprising:

establishing at least one Point-to-Point Protocol session for the at least one grade of Radio Link Protocol service used by the first application, and establishing at least one Point-to-Point Protocol session for the at least one grade of Radio Link Protocol service used by the at least second application, wherein each of the Point-to-Point Protocol sessions comprises a termination endpoint, and wherein the termination endpoint of each of the Point-to-Point Protocol sessions is associated~~has having endpoints~~ with the same Internet Protocol Address; and

differentiating the termination endpoint of each ~~of the~~ Point-to-Point Protocol sessions using a session link characteristic, the session link characteristic comprising including at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or[[and]] guaranteed delivery level.

Claims 121-125. (Cancelled)

126. (Original) The computer readable medium of claim 120 wherein the wireless device uses Simple Internet Protocol service.

127. (Original) The computer readable medium of claim 120 wherein the wireless device uses Mobile Internet Protocol service.

128. (Currently Amended) An apparatus for utilizing a single Internet Protocol Address for multiple Point-to-Point Protocol instances between a single wireless device and a wireless network, comprising:

means for initiating multiple Point-to-Point Protocol links, wherein each Point-to-Point Protocol link of the multiple Point-to-Point Protocol links comprises a termination endpoint, and wherein the termination endpoint of each Point-to-Point Protocol link is associated with the same~~sharing an identical~~ Internet Protocol Address; and

means for differentiating the termination endpoint[[s]] of each Point-to-Point Protocol link of the [[said ]]multiple Point-to-Point Protocol links using a link characteristic, the link characteristic comprising ~~including~~ at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or[[and]] guaranteed delivery level.

129. (Currently Amended) In a wireless communication system, an apparatus for utilizing a single Internet Protocol address for multiple Point-to-Point Protocol instances between a single wireless device and a wireless network, comprising:

means for establishing a first Point-to-Point Protocol link having a first termination endpoint[[s]], the first termination endpoint associated with an Internet Protocol Address;

means for establishing a second Point-to-Point Protocol link having a second termination endpoint, the second termination endpoint associated with the [[same ]]Internet Protocol Address ~~as the first Point-to-Point Protocol link~~; and

means for differentiating the first termination endpoint and second termination endpoints of the first Point-to-Point Protocol link and the second Point-to-Point Protocol link using a link characteristic, the link characteristic comprising ~~including~~ at least one of a compression type, encryption level, Radio Link Protocol transmission delay, or[[and]] guaranteed delivery level.

130. (Previously Presented) The apparatus of claim 129 wherein the wireless device uses Simple Internet Protocol service.

131. (Previously Presented) The apparatus of claim 129 wherein the wireless device uses Mobile Internet Protocol service.